

REMARKS

Claims 1-43 are pending and under consideration in the above-identified application.

With this Amendment, claims 13, 23,26, 27, 29, 30, 40 and 41 were amended and claims 21 and 34 were cancelled.

In the Final Office Action dated March 28, 2009, the Examiner rejected claims 13-18, 21-32 and 34-44.

I. Specification

The specification was amended to correct a typographical error. No new matter has been introduced as a result of the amendment.

II. Double Patenting Rejection of Claims

Claims 13-18, 21-32 and 34-44 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims of U.S. Patent Application No. 10/596,139. In response to this objection, Applicants reserve the right to file an appropriate Terminal Disclaimer upon the allowance of either this application or the copending application.

III. 35 U.S.C. § 103 Obviousness Rejection of Claims

Claims 13-18, 21-32 and 34-44 are rejected under 35 U.S.C. § 103(a) as being obvious over Yamada et al., JP 2003 192925 (U.S. Publication No. 2005 0143502) serving as English translation) in view of Yoshida et al. (U.S. Publication No. 2002 0151631). Applicant respectfully traverses this rejection.

The claims require a resin composition that includes at least one biodegradable organic high molecular weight compound, a flame retardant additive containing a phosphorus-containing compound, a hydroxide, a nitrogen oxide having the formula N_xO_y and selected from the group

consisting of a non-metallic nitric acid compound and/or a non-metallic nitrous acid compound and a hydrolysis suppressing agent.

Additionally, the claims require that the hydroxide and the nitrogen compound are each no larger than approximately 100 μm , that the amount of hydroxide is from 30 to 100 parts by weight to 100 parts by weight of the organic high molecular weight compound and that the amount of phosphorous in the phosphorus-containing compound is not more than 20 parts by weight to 100 parts by weight of the composition of the entire resin.

The resin composition required by the claims exhibits vertical burning test results of UL94-V1. Specification, Tables 3 & 6. As discussed in the specification, the phosphorus containing compound improves the preservation characteristics, while the combination of the hydrolysis agent and the nitrogen compound improve the vertical burning test results to UL94-V1. Specification, page 64. The comparative examples demonstrate that a compound lacking any of the required limitations will either fail to comply with UL94-V1 prescriptions, or have decreased preservation characteristics.

Yamada et al. teaches a biodegradable resin that includes hydroxide compounds, ammonium phosphate compounds and silica compounds. Yamada et al., paragraph [0009]. Similar to Yoshida et al., the flame retardant material of Yamada et al. only exhibits vertical burning test results of UL94-V2. See Yamada et al., Table 4. Furthermore, Yamada et al. teaches the use of metal nitrates and cyanurate compounds, rather than the use of a nitrogen oxide compound as required by the claims. Additionally, Yamada et al. does not teach or even fairly suggest the same weight ratios or particle sizes as required by the claims.

Yoshida et al. teaches a flame retardant material that includes a polymer material and N_xO_y . In the Advisory Action, the Examiner states that Yoshida et al teaches the use of

phosphorous. However, as stated previously, Yoshida et al. specifically teaches that, “[a] phosphorous-base flame retarder...is undesirable since it can emit phosphine, a hydride of phosphorous.” Yoshida et al., paragraph [0004] (emphasis added). As such, Yoshida et al. teaches that phosphorous should not be used.

In order to establish obviousness of a claim, the prior art must disclose or suggest each element of the claim; there must be some reason that would have prompted one of ordinary skill in the art to combine the elements and/or modify a reference(s) so as to reach the requirements of the claim; and there must have been a reasonable expectation of success of the combination and/or modification. MPEP § 2143; *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. ___, Slip Op No. 04-1350, 119 Fed. Appx. 282 (April 30, 2007). Here, Yoshida et al. teaches away from the use of phosphorus based flame retarders stating that they are “undesirable.” As such, Yoshida et al. is not properly combinable with Yamada et al.

Furthermore, the finding of evidence of greater than expected results can be shown by demonstrating an effect which is greater than the sum of each of the effects taken separately. See MPEP 716.02(a) & *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804 (Fed. Cir. 1989). In this case, both Yamada et al. and Yoshida et al. teach flame retardant compositions having vertical burning test results of UL94-V2. See Yamada et al., Table 4 & Yoshida et al. Tables 1-6. The claims, however, as indicated in Tables 3 and 6 require a resin composition that combines a phosphorus compound *and* a nitrogen oxide, which exhibits greater flame retardant properties namely, UL94V-1, than each of the cited references combined. Accordingly, it would not have been obvious to combine the flame retardant additives of Yoshida et al. and Yamada et al. in order to achieve better UL94V results.

As such, the cited references fail to teach or even fairly suggest all the unexpected results demonstrated by required elements of the claims. Accordingly, the claims are patentable over the cited references. Thus, Applicants respectfully request that the above rejections be withdrawn.

IV. Conclusion

In view of the above amendments and remarks, Applicant submits that all claims are clearly allowable over the cited prior art, and respectfully requests early and favorable notification to that effect.

Respectfully submitted,

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